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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,631	03/01/2004	Kurt R. Nielsen	40217.1USI2	3083

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EXAMINER
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BOS, STEVEN J

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/791,631

Applicant(s)

NIELSEN ET AL.

Examiner

Steven Bos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07-2005</u> . | 6) <input type="checkbox"/> Other: _____  |

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It is noted that the status of 09/480,092 recited on instant pg. 1 needs to be updated to reflect that it is now US Patent 6,609,761.

Claims 3, 19, 39 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

With regard to claim 19, a hot aqueous liquid at a temperature of 250°F is already recited in claim 1.

With regard to claims 3, 39, the process of claim 1 recites dissolving sodium bicarbonate in the ore deposit therefore the ore deposit inherently contains sodium bicarbonate therefore claims 3, 39 each fail to further limit claim 1.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-39 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "recovery of sodium bicarbonate from a nahcolite deposit," does not reasonably provide enablement for recovery of sodium bicarbonate from any ore deposit. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the

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invention commensurate in scope with these claims. The instant specification discloses useable temperatures and pressures for nahcolite containing ore only.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosar '790 in view of Prats, et al.

Rosar teaches the instantly claimed process of recovering sodium bicarbonate crystals from a hot aqueous solution containing same by dissolving nahcolite in a mining zone by injecting a hot aqueous liquid solution and recycling the mother liquor to the mining zone. See the abstract, Fig. 1, col. 9 and the claims. The taught "about 150 psig" overlaps that instantly claimed. The taught crystallizer having a recycle loop, see col. 10, is equivalent to the instantly claimed "multiple-stage crystallization".

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The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549.

Rosar differs in that temperatures of at least 270°F are not stated.

Prats teaches a similar process as Rosar and teaches temperatures greater than 270°F, eg. 300°F, 350°F, to form hot aqueous solutions of sodium bicarbonate from nahcolite ore. See pp. 1080-1.

It would have been obvious to one skilled in the art to use temperatures greater than 270°F in the process of Rosar because Prats teaches that such temperatures may be used to form hot aqueous sodium bicarbonate solutions similar to those of Rosar.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results, see *In re Boesch*, 205 USPQ 215.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

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patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 6,699,447 in view of Ramey '809. US '447 may differ in that dissolving sodium bicarbonate in a mining zone with a hot aqueous solution may not be stated. Ramey teaches the conventional process of dissolving sodium bicarbonate in a mining zone with a hot aqueous solution and same would have been obvious to one skilled in the art in order to provide the solution required in US '447. See *In re Kamlet*, 88 USPQ 106.

Claims 1-39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 6,854,809 in view of Nielsen '447. US '809 may differ in that the use of multiple stage crystallization may not be stated. Nielsen teaches the use of multiple stage crystallization in a process similar to US '809 and same would have been obvious to use in the process of US '809 because this would provide a more efficient recovery of sodium bicarbonate crystals.

Applicant's arguments filed December 19, 2005 have been fully considered but they are not persuasive.

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Applicant argues that neither the '447 patent nor Ramey '809 teach the recycling at least a portion of the mother liquor to the mining zone to dissolve sodium bicarbonate. However same is suggested by Ramey '809 in claim 3.

Applicant argues that neither Ramey '809 nor Neilsen '447 teach the recycling at least a portion of the mother liquor to the mining zone to dissolve sodium bicarbonate. However same is suggested by Ramey '809 in claim 3.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

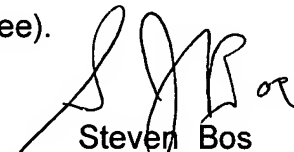
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Bos whose telephone number is 571-272-1350. The examiner can normally be reached on M-W,F, 8AM to 6PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven Bos  
Primary Examiner  
Art Unit 1754

sjb